CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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| SUBJECT | | Research Work at the | the Severo-Donetsk | DATE DISTR. | 28 August 1953 | t |
| | | Chemical Plant | | NO. OF PAGES | , 6 | |
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- 4. Because the management of the Severo-Donetsk plant was not prepared to employ German specialists, they were, at first, generally assigned various odd jobs. Among others, they were to design a department capable of producing 50,000 to 60,000 tons of urea per year. When the German team said that it did not have the specialized knowledge required for such a project, the management requested that they plan an experimental plant for the production of urea from ammonia (NH3) and carbon dioxide (CO2). One of the chemists was ordered to draw up a list of the equipment needed for a large experimental laboratory. Between late 1948 and early 1949, the management asked the German team to determine the properties of ammonium nitrate and submit suggestions for the storage and the shipping of this agent. Research work assigned to the German experts between early 1949 and May 1950 included the production of aluminum a oxide (Al₂0₃), silicic anhydride (SiO₂), catalyzers for the cracking process; propionaldehyde (C2H5,CH3) from propyl alcohol (C2H5,CH2.OB); formaldehyde (HCHO); the manufacture of synthetic glycerine ((CH2OH)2.CHOH); mersolate (a washing agent obtained from aliphatic carbohydratea); adipic acid ((CO2H)2. (CH2), from cyclohexanol (CH2.(CH2)4.CH OH); opposed according to the Oppsu procedure (a plastic obtained from polybutylene (CH3.CH2.CH2.CH2); low fatty acids from alcohols; Braunoxydkatalysator (brown oxide catalyzer, Fe203) used for the production of hydrogen and Schwarzoxydkatalysator (black oxide catalyzer, Fe304) for ammonia synthesis and procedures for the utilization of these catalyzers; reduction of aldehydes of medium molecular weights to alcohol; production of compounds of propional dehyde (C285, CHO) and formal dehyde (HCHO). The German experts engaged only in theoretical fesesach work. They were not sufficiently femiliar with the subjects to which they were assigned nor were they provided with the technical literature required for modern research work. So they were forced to rely on memory and some personal notes. The result of their work was, therefore, unsatisfactory. They completed a few major studies, each totaling about 200 pages and dealing with the oxo - and synol (sic) processes, on which a number of the experts had been working at the Leuns Works. The other studies did not exceed 30 to 40 typed pages.
- 5. In April 1950, the German team was assigned the mission of elaborating a process for the production of engine fuels and oxidized products through the synthesis of carbon monoxide and hydrogen (CO-H2) utilizing an iron catalyzer in a fluidized bed. The procedure was based on the American modification of the Fischer-Tropsch process. The establishment of an experimental plant in the factory area was intended. Preparatory work was done between May and November 1950. The projected plant was to have a throughput of 200 cu. meters of synthetic gas per hour and to include the synthetic plant proper, with preheater, synthesis furnace, contact separator, cooler, separator, oil scourer, blower conduits, instruments such as control apparatuses, valves, etc., and storage tanks, as well as the devices serving to purify the product, such as distilling equipment, extraction plant, and catalytic aftertreatment of the fuel obtained. Photostats of pertinent publications, principally American research work, were placed at the disposal of the team by Moscow libraries. The completed study consisted of two parts, each of about 180 typed pages. The first part dealt with the synthesis plant proper; the second with the further processing of the product obtained.
- 6. The German specialists were then assigned the mission of examining the advantages of water-gas conversion, a pressure process used for the conversion of carbon monoxide into water gas (CO → H2) → CO2 → H2), over the pressureless process. At the same time, it was intended to set up a plant for water-gas conversion under pressure by means of a powdered catalyzer in a fluidized bed. The pertinent study was based mainly on reports by Soviets on the conversion of water-gas at the Leuna Works. This work, which was performed between December 1950 and May 1951, when the German team was repatriated, remained fragmentary. The fundamental problem, whether the conversion of water gas with a powdered catalyzer in a fluidized bed, either with or without pressure, was profitable, was not solved.
- 7. The only practical results were obtained from the research work conducted on the synthesis of a carbon monoxide and hydrogen. The work of the German team

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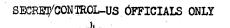
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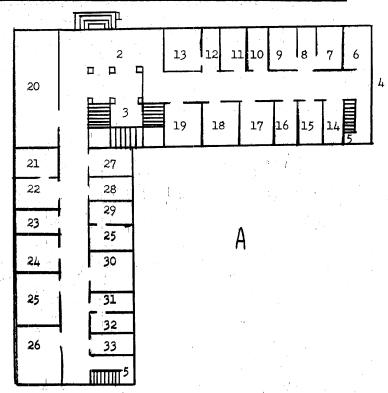
was hampered by a lack of working rooms, assistants, and materials. For example, reports frequently had to be written on packing paper. The work was further impeded by a general distrust of the Soviets on the part of the Germans which almost excluded an exchange of ideas. The studies were accepted and then disappeared without being discussed. The Germans were restricted in their movements in the town of Severo-Donetsk.

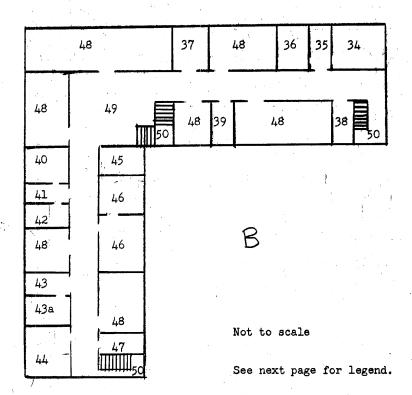
8. The team of German specialists from the Leuna Works included chemists Dr. Ernst Paul Herold, Dr. Karl Hermann Geib, Dr. Kurt Kosterhon, Dr. Walter Schmidt, Dr. Luis Gemassmer, and Dr. Ing. Karl Bode. Prior to the spring of 1949, the Germans were given their orders by the manager of the plant, whose name was Yilesov (fnu) and Chief Engineer Gogin (fnu). Between 1948 and the spring of 1949, the superiors of the German team were Nazarov (fnu), director of the Technical Department of the plant, and his deputy Nikitenko (fnu). Between spring and Fall of 1949, the team was supervised by Vostrikov (fnu), between the fall of 1949 and March 1950 by Kukushkin (fnu), and between March 1950 and May 1951 by Makarov (fnu). It was the duty of these supervisors to communicate their missions to the German experts, to discuss their work with them, and to accept the finished studies, which were typed in German. The reports were translated into Russian by Ryavich (fnu) and Baril (fnu). German specialists had at their disposal a modest factory library, which contained Soviet literature, four American technical periodicals, and a number of fairly old German books and periodicals. The library was supervised between 1948 and May 1949 by Mrs. Nikitenko, whose husband was employed in the Technical Department. Shortly after the war, both of them worked for a time in Piesteritz. In May 1949, the wife of the plant manager, Vilesova, took over the library. The name of the Deputy Manager for Economic Affairs was Zhuk (fnu). The Personnel Department was headed by Mrs. Kravtsova (fnu). After December 1948, the Chief Engineer of the plant was Livshits (fnu), who was transferred to Severo-Donetsk from the Nitrogen Institute in Moscow. The chief of the Designing Office was Masterov (fnu), who also controlled the draftsmen's brigades headed by Yevtushenko (fnu) and Logvinenko (fnu). Power supply and all electrical installations of the plant were controlled by Ryabin (fnu). The chief of the Political Department was Sukhin (fnu).



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Administration Building of the Chemical Plant at Severo-Donetsk





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Legend

A. First floor

- 1. Main entrance
- 2. Porch with columns
- 3. Main stairs to the second floor and the basement
- 4. Side entrances
- 5. Two side stairs to the second floor and the basement
- Photographic laboratory
- 7. Library
- 8. Office of the librarian
- 9. Reading room
- 10. Office of the Nachalnik Otdela Truda (Chieft of thetlabbr Section)
- 11. Office of the Labor Section
- 12. Office of the woman secretary of the Deputy Manager for Economic Affairs
- 13. Office of the Deputy Manager for Economic Affairs (purchasing department)
- 14. Lavatory
- 15. Office of the group Communist Youth Association (VLKSM)
- 16. Blueprint office
- 17. Personnel Department. The office of the woman director of this department was located in a building about 100 meters from the administration building.
- 18, Drawing room for designers of the Moscow State Institute of the Nitrogen Industry
- 19. Workroom of the five German specialists
- 20. Branch office of the Moscow Research Institute of the Nitrogen Industry
- 21. Office of the main bookkeeper
- 22. Main bookkeeping office
- 23. Pay office
- 24. Finance department
- 25. Two rooms, purpose undetermined
- 26. Records office
- 27. Foremen's office
- 28. Office of the Factory Committee
- 29. Office of the Chief of the Administrative Department

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- 30. Designing Office
- 31. Office of the woman secretary to the Chief of the First Department
- 32. Office of the Chief of the First Department
- 33. Lavatory

B. Second floor

- 34. Plant manager
- 35. Office of the plant manager's woman secretary
- 36. Office of the Chief Engineer
- 37. Administrative and Economic Department
- 38. Lavatory
- 39. Office of the Director of the Main Department for Power Supply
- 40. Director of the Designing Office
- 41. Office of the woman secretary to the Director of the Designing Office
- 42. Director of the Technical Department
- 43. Designing Office
 - a. Workroom of translator and two employees who checked the constructional drawings
- 44. Drawing room
- 45. Typing room
- 46. Designing Office
- 47. Lavatory
- 48. Seven rooms serving undetermined purposes
- 49. Hall with staircase
- 50. Steps

Comment: In the original report, in at least one case the word otdel was translated as department rather than section. Probably department should be corrected to section wherever it occurs in this report.

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